

CLAIMS

1. A deep-hole machining method for using a tool such as a drill, a reamer or an end mill to machine, in a workpiece, a hole having a depth not less than 50 times a diameter of the tool, said method comprising steps of:

mounting, to a tool holder, the tool formed with a through hole extending in an axial direction;

supplying a pressurized gas, at 1.5 to 5 MPa, to the through hole by way of the tool holder; and machining a deep hole while the pressurized gas is ejected from a forward end of the tool.

2. The deep-hole machining method according to claim 1, wherein the tool holder comprises a tank for storing a machining liquid therein, and an atomization means for atomizing the machining liquid stored in the tank by the action of the supplied pressurized gas; and

wherein deep-hole machining is carried out while the atomized machining liquid is ejected from the forward end of the tool.

3. A deep-hole machining apparatus for using a tool such as a drill, a reamer or an end mill formed with a through hole extending in an axial direction to machine, in a workpiece, a hole having a depth not less than 50 times a diameter of the tool, said deep-hole machining apparatus comprising:

a tool holder for holding the tool and including a tank for storing a machining liquid therein and an atomization means for atomizing the machining liquid stored in the tank by the action of a pressurized gas thereby to supply the atomized machining liquid to the through hole of the tool;

a gas supply conduit for supplying the pressurized gas to the tool holder; and

a gas pressure boosting means for supplying the pressurized gas, at 1.5 to 5 MPa, to the

gas supply conduit.